U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Zonolite Road Atlanta GAO144 - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #1**
Removal Site Evaluation
Zonolite Road Atlanta GAO144
B410
Atlanta, GA
Latitude: 33.8063720 Longitude: -84.3417654

To: Shane Hitchcock, USEPA R4 ERRB

From: Terry Stilman, OSC
Date: 3/10/2011
Reporting Period: 3/30/10 - 3/10/2011

1. Introduction

1.1 Background

Site Number:	B410	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Assessment
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:		**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.2 Site Description

A removal site evaluation has been conducted at the Site by the Environmental Protection Agency (EPA) in response to an agency wide initiative to investigate vermiculite facilities that received vermiculite ore from the W.R. Grace vermiculite mine in Libby, Montana. The Site, also referenced as the "GAO 144 site" was the former location of a vermiculite expansion (or, exfoliation) plant. According to W.R. Grace and other sources, the expansion plant operated from 1950 until 1970 and between 499 and 1,225 tons of vermiculite concentrate from the W.R. Grace vermiculite mine in Libby, Montana were shipped to the GAO 144 site. Also according to W.R. Grace, all equipment and buildings – except for an office building and a bath house – were reportedly removed and demolished in 1970. Historical aerial photographs, however, indicate that demolition of these buildings was conducted in phases beginning sometime between 1960 and 1968 and ending sometime between 1988 and 1993. The former office building, which is currently occupied by the Atlanta Soto Zen Center, is located on the eastern portion of the property and includes some paved areas for parking. Much of the remaining portion of the Site is either sparsely vegetated or heavily wooded. Presently the Site is used by residents in the

area for recreational activities.

The site occupies approximately 16 acres, some or all of which was the former location of a vermiculite expansion plant. The former office building, which is currently occupied by the Atlanta Soto Zen Center, is located on the eastern portion of the property and includes some paved areas for parking. West of the office building is a partially open area with some vegetation and trees. This area is where, based on historical photographs, it is believed the vermiculite expansion buildings and processing and storage facilities were located; uneven mounds, concrete debris, and the plateau area are located in this section of the Site. Further west, the Site is a heavily forested. A railroad spur is believed to have bordered the former vermiculite expansion facility along its northern perimeter.

Currently, DeKalb County owns part of the area occupied by the former vermiculite expansion facility. Citizens in the local community have made efforts to establish a park in this area, with walking trails extending through the wooded areas and along the south fork of Peachtree Creek. The Site is currently unfenced and there is evidence of both foot and bicycle traffic on the site property, particularly in the undeveloped, sparsely-vegetated and wooded areas.

The former vermiculite expansion plant was first constructed at the Site by Southern Zonolite Company in 1950; this company reportedly owned the property at that time. In 1957, Zonolite Company merged with the Southern Zonolite Company. In 1963, W. R. Grace and Company acquired the assets of the Zonolite Company, and continued to operate the expansion plant until 1970. According to W.R. Grace, the parcel was deeded to R. W. Sterrett in 1983. At some point in time, DeKalb County assumed ownership of a large portion of the property, while other portions of the original property are owned by other entities. According to various sources, between 499 and 1,225 tons of vermiculite concentrate from the W.R. Grace vermiculite mine in Libby, Montana were shipped to the Site.

1.1.2.1 Location

The Site is located approximately 4.5 miles northeast of downtown Atlanta, Georgia, in a developed urban area of mixed light-industrial, commercial, and residential use. The site occupies about 16 acres, some or all of which was the former location of a vermiculite expansion plant. The Site is bordered to the south by Dalon Road, a landscape services and garden business, and the south fork of Peachtree Creek. To the west of the Site are Peachtree Creek and several residences. The Site is bordered to the north by railroad tracks and a complex containing numerous commercial and light industrial businesses. The eastern portion of the Site is occupied by the Atlanta Soto Zen Center; beyond the Zen Center lie additional light industrial and commercial businesses. Residential communities are located to the south beyond the south fork of Peachtree Creek, to the west, and to the north beyond the railroad tracks. The nearest school, Briar Vista Elementary School, is located about 2,000 feet northeast of the Site. Emory University is located about one mile southeast of the Site. The Site is currently unfenced and there is evidence of both foot and bicycle traffic on the Site property, particularly in the undeveloped sparsely vegetated and wooded areas.

1.1.3 Removal Site Evaluation

During the Spring of 2010 (March 24, 25, and 30; and April 15) EPA and EPA's Superfund Technical Assistance and Response Team (START) contractor conducted activity-based air sampling (ABS) and bulk material sampling at the Site. The objective of the field effort was to evaluate potential human exposure risk from disturbance of materials potentially contaminated with asbestos. ABS was conducted to evaluate human exposure potential to asbestos motivated during typical activities that may take place at a site such as raking and sweeping. Sampling at the Site occurred during or in association with the various disturbance-type activities and included collection of the following types of samples: air samples and bulk material samples (consisting of debris and soil). Air sampling at the Site included collection of ABS samples and background air samples to quantify any background level of airborne asbestos. Quality control samples included field duplicate samples and lot blanks and field blanks associated with the air samples. Bulk material samples were collected in association with the ABS rounds and in other selected locations based on historical information.

2. Current Activities

2.1 Operations Section

2.1.2 Response Actions to Date

Four rounds of ABS were conducted at the Site (March 24 and 25, 2010). Three of the ABS rounds involved raking as the chosen disturbance activity, and one round involved a combination of raking and sweeping. For each ABS round, air samples were collected from the breathing zone of the activity participants (i.e., those who raked or swept), as well as from an array of four stationary perimeter locations surrounding the area chosen for the activity. In addition, a bulk material sample was collected from the activity area after each ABS round.

ABS Round 1 (a raking activity) was conducted on the sparsely vegetated section of the Site that appears somewhat elevated above the surrounding terrain (the "plateau" area). This area was chosen to conduct an ABS round because, based on historical photographs, it is located in what may have been the western portion of the former vermiculite expansion facility.

ABS Round 2 (a combination of raking and sweeping) was conducted in the area located adjacent to the west side of the former office building of the vermiculite expansion facility (currently occupied by the Atlanta Soto Zen Center). Sweeping was conducted on an asphalt driveway and the raking was conducted on an adjacent patch of grass and bare soil.

ABS Round 3 (a raking activity) was conducted at the convergence of several pedestrian trails located in a heavily-wooded portion of the Site. This area was chosen because it is within the western end of where the former vermiculite expansion facility is believed to have been located, and because of the potential for pedestrian and bicycle traffic.

ABS Round 4 (a raking activity) was conducted in the area located along the northern boundary of the Site. This area was chosen because it is where a rail spur is believed to have been formerly located and it is also adjacent to (and possibly within) the footprint of the former vermiculite expansion buildings. The activity area is also down gradient from the elevated area within which ABS Round 1 was conducted.

Of the four ABS events, three rounds did not yield detectable concentrations of asbestos in the air samples collected. The only detection of asbestos in any ABS air sample – at the detection limit of the analytical technique – was for an air sample associated with ABS Round 1, collected in the area that appeared somewhat elevated above the surrounding terrain (the "plateau" area).

The preliminary analytical results for all bulk samples indicated either non-detect or trace (present but below levels that can be quantified) quantities of asbestos, except for two samples that reported low percentage levels of Libby amphibole asbestos (0.5 percent and 0.75 percent). These samples were also collected in the plateau area.

A Site visit was conducted on October 20, 2010 with invited members of EPA's national Asbestos Technical Review Workgroup in attendance. The group included members from EPA Region 8 familiar with Libby, MT vermiculite, members of the Environmental Response Team (ERT) familiar with sampling efforts at sites that received vermiculite from Libby, and On-Scene Coordinators (OSCs) from other Regions that are familiar with the investigation of the Libby "sister sites." The draft data, historical information, and known current Site uses were presented to the team. Included in the input provided by the visiting group was a recommendation to conduct visual confirmation of the presence/absence of vermiculite below land surface in the soil plateau and surrounding areas.

On November 12, 2010, EPA OSC Stilman, EPA Toxicologist Frederick and START conducted a Site visit to further investigate the plateau area within what is believed to be the former location of the vermiculite expansion buildings and processing and storage facilities; uneven mounds and concrete debris are also located in this area. The purpose of the Site visit was to excavate small test pits into the plateau and other areas on the Site to visually confirm the presence/absence of vermiculite beneath the ground surface. Test holes were excavated in several areas of the plateau and selected other areas of the Site. In the plateau area test holes, EPA visually identified vermiculite at depths ranging from less than 6 inches below ground surface (bgs) to somewhat deeper than 12 inches bgs. EPA did not observe vermiculite in any of the test excavations on other areas of the site. Based on these findings, EPA determined that vermiculite appears to be present below the land surface in the plateau area. The area where vermiculite is present is roughly estimated to occur in a zone about 175 feet wide by 250 feet long. The height of the plateau appears to area range from between about 0 feet to 6 feet above natural grade.

In a follow-up sampling investigation, EPA and W. R. Grace collected additional samples of the plateau on December 6, 2010. The results of the sampling confirmed Libby amphibole asbestos within the plateau. Soil samples collected in the subsurface of the plateau were found to have concentrations ranging from "no asbestos found to 2% tremolite. Asbestos was identified in each of the bulk samples of vermiculite from <1% to 2% tremolite.

EPA's Framework for Investigating Asbestos-Contaminated Superfund Sites (EPA 2008) provides a step-wise process for evaluating risks associated with asbestos. The Zonolite Road vermiculite site is known to have used vermiculite from Libby, MT that is contaminated with a distinct form of asbestos. The "Libby amphibole" form of asbestos has been identified in environmental samples collected at the site. Identification of the Libby amphibole in environmental samples and the visual presence of vermiculite beneath the land surface in the plateau area is evidence that a release has occurred.

2.2 Planning Section

2.2.1 Anticipated Activities

Asbestos is a hazardous substance as defined by CERCLA 101 (14) and listed in the Title 40 of the Code of Federal Regulations (CFR), Section 302.4. EPA's Technical Services section has reviewed the results of the removal site evaluation consistent with EPA's Framework for Investigating Asbestos-Contaminated Superfund Sites (EPA 2008) provides a step-wise process for evaluating risks associated with asbestos. The Zonolite Road vermiculite site is known to have used vermiculite from Libby, MT that is contaminated with a distinct form of asbestos. The "Libby amphibole" form of asbestos has been identified in environmental samples collected at the site. Identification of the Libby amphibole in environmental samples and the visual presence of vermiculite beneath the land surface in the plateau area is evidence that a release has occurred.

Asbestos present in Site soils pose the following threats to public health or welfare as listed in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

Section 300.415 (b)(2)(i) Actual or potential exposure to nearby human populations, or the food chain from hazardous substances pollutants or contaminants; Vermiculite in both the expanded form and unexpanded form has been detected at the Site in the plateau area. Surface and subsurface soils, respectively, contain measured and presumed asbestos levels, based on visual identification and sampling. Though, based on ABS results, it appears that the risk posed by soil at the immediate land surface is minimal, the presence of visible vermiculite known to be associated with Libby amphibole asbestos indicates a threat of asbestos exposure should soils in the plateau area be disturbed. The potential for exposure is compounded by the fact that the Site is located in the midst of a densely populated urban area. Residential and commercial properties are located immediately adjacent to the Site, and it is known that the Site has been used for recreational activities, and given its location it is likely that such usage will continue. The route of exposure that represents the greatest health concern is the inhalation of airborne fibers, dispersed from soil by the action of pedestrian or bicycle traffic and/or wind action. In addition to the dispersion of fibers into the air, foot and bicycle traffic on these surfaces would be expected to facilitate the breakdown of the amphibole bundles into smaller and more respirable fibers over time, and may increase the potential for impact of both the adjacent residential and industrial communities as well as any trespassers. Asbestos is of concern because chronic inhalation exposure to excessive levels of asbestos fibers suspended in air can result in lung diseases such as asbestosis, mesothelioma and lung cancer.

Section 300.415 (b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate; Analytical and observable results reveal the presence of asbestos at or near the surface. Modification of the plateau area through grading, digging, or other means may create the potential for migration to off-site locations. There is no natural or man-made boundary to restrict asbestos contaminated soils from migrating off-site. A relationship between the concentration of asbestos in a source material (soil/asbestos containing vermiculite) and the concentration of fibers in air that results when the source is disturbed is very complex and depends on a broad range of variables. No method has been found to predict the concentration of asbestos in air reliably as it relates to a measured concentration of asbestos in the source material. A low concentration of asbestos in source material may, when disturbed, result in a high concentration of airborne asbestos. Future land use of the site will result in vigorous and routine disturbance of the soil in the plateau area. An action is warranted in the plateau area to prevent recreational gardeners using the public park from potentially elevated concentrations of airborne asbestos that could result from regular disturbance of the soil and asbestos-containing vermiculite present in the plateau.

Section 300.415 (b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; Drought conditions such as Atlanta has experienced in the recent past and is likely to experience in the future may contribute to the potential for migration of asbestos-containing soils. Wind, action, particularly during dry conditions, can lead to migration of fine asbestos fibers from contaminated surface soil; particularly should the area become denuded of vegetation through natural or other means. On the other hand, heavy rainfall or other forms of runoff inducing events would also tend to wash the fibers from the surface soils onto the adjacent properties where they could also become airborne if left exposed.

Section 300.415 (b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; GA EPD has indicated that the State lacks available funds to implement a cleanup at the Site in a timely manner. If EPA Region 4 does not respond to this release, no other federal agency, state or local government had the capacity to respond in a time-critical manner.

The analytical data has been reviewed by EPA's Technical Services Section. Based on the presence of aesbestos containing vermiculite within the plateau area a removal action is warranted to remove the potential threat.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.